What is claimed is:

1. An optical recording medium comprising a substrate, a recording layer and optionally one or more reflecting layers, wherein the recording layer comprises a

compound of formula
$$R_5$$
 R_5 R_6 R_5 R_6 R_5 R_6 R_6 R_6 R_6 R_6 R_7 R_8 R_8 R_8 R_8 R_8

5 G₁, G₂ and G₃ are each independently of the other

$$= \begin{pmatrix} A_4 & R_{7} \\ R_{9} & R_{8} \end{pmatrix}, \quad \begin{pmatrix} A_4 & R_{7} \\ N & R_{8} \end{pmatrix}, \quad \begin{pmatrix} A_4 & R_{7} \\ N & N \end{pmatrix} \text{ or } \begin{pmatrix} R_{13} \\ R_{12} \\ N & R_{11} \end{pmatrix};$$

 A_1 , A_2 and A_3 are each independently of the other N(R₁₄), O, S or Se and A₄ is $C(C_1-C_5alkyl)_2$, $C(C_4-C_5alkylene)$, N(R₁₄), O, S, Se, N=C(R₁₅) or CH=C(R₁₆);

M₁ is an at least trivalent metal of groups 3 to 15 [formerly groups IIIA to VB],

10 preferably Co(III), Cr(III), Ru(III), Fe(III), Mn(III), V(III), Ti(III), Y(III), Mo(III), W(III),

Nb(III), Rh(III), Ta(III), Ir(III), Au(III), Al(III), As(III), Sb(III), Bi(III), Sc(III), La(III),

Ce(III), Pr(III), Nd(III), Pm(III), Sm(III), Eu(III), Gd(III), Tb(III), Dy(III), Ho(III),

Er(III), Tm(III), Yb(III) or Lu(III), most preferred Co(III) or Cr(III);

 Q_1 , Q_2 and Q_3 are each independently of the other $C(R_{17})$, N or P;

15 R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈, R₉, R₁₀ and R₁₆ are each independently of the others hydrogen, R₁₈, or C₆-C₁₂aryl, C₄-C₁₂heteroaryl, C₇-C₁₂aralkyl or C₅-C₁₂heteroaralkyl each unsubstituted or substituted by one or more, where applicable identical or different, radicals R₁₈; or

25

 R_1 and R_2 , R_3 and R_4 , R_5 and R_6 , R_7 and R_8 , R_7 and R_{15} and/or R_7 and R_{16} , together in pairs, are C_3 - C_6 alkylene or C_3 - C_6 alkenylene, each of which is unsubstituted or substituted by one or more, where applicable identical or different, radicals R_{19} and may be uninterrupted or interrupted by O, S or $N(R_{14})$, or 1,4-buta-

5 1,3-dienylene, or , each of which is unsubstituted or substituted by

one or more, where applicable identical or different, radicals R_{18} and in which 1 or 2 carbon atoms may have been replaced by nitrogen;

R₁₁, R₁₄ and R₁₅ are each independently of the others C₁-C₂₄alkyl, C₃-C₂₄cycloalkyl, C₂-C₂₄alkenyl, C₃-C₂₄cycloalkenyl, C₁-C₄alkyl-[O-C₁-C₄alkylene]_m or C₁-C₄alkyl-[NH-C₁-C₄alkylene]_m, each of which is unsubstituted or substituted by one or more, where applicable identical or different, radicals R₁₉; or C₆-C₁₂aryl, C₄-C₁₂heteroaryl, C₇-C₁₂aralkyl or C₅-C₁₂heteroaralkyl, each of which is unsubstituted or substituted by one or more, where applicable identical or different, radicals R₁₈;

R₁₂, R₁₃ and R₁₈ are each independently of the others R₂₀ or C₁-C₁₂alkyl,

C₃-C₁₂cycloalkyl, C₁-C₁₂alkylthio, C₃-C₁₂cycloalkylthio, C₁-C₁₂alkoxy or C₃-C₁₂cycloalkylthio, alkoxy each unsubstituted or substituted by one or more, where applicable identical or different, radicals R₁₉;

 R_{17} is hydrogen, halogen, cyano, hydroxy, C_1 - C_{12} alkoxy, C_3 - C_{12} cycloalkoxy, C_1 - C_{12} alkylthio, C_3 - C_{12} cycloalkylthio, amino, nitro, formyl, $C(R_{16})$ = $CR_{21}R_{22}$, $C(R_{16})$ = NR_{23} , N= $CR_{23}R_{24}$, NHR_{25} , $NR_{26}R_{27}$, COO- R_{26} , carboxy, carbamoyl, CONH- R_{26} , $CONR_{26}R_{27}$, R_{28} , N=N- R_{28} or R_{29} ;

R₁₉ is halogen, hydroxy, O-R₂₆, O-CO-R₂₆, S-R₂₆, NH₂, NH-R₂₆, NR₂₆R₂₇, NH₃⁺, NH₂R₂₆⁺, NHR₂₆R₂₇⁺, NR₂₅R₂₆R₂₇⁺, NR₂₆-CO-R₂₅, NR₂₆COOR₂₅, cyano, formyl, COO-R₂₆, carboxy, carbamoyl, CONH-R₂₆, CONR₂₆R₂₇, ureido, NH-CO-NHR₂₅, NR₂₆-CO-NHR₂₅, phosphato, PR₂₅R₂₆, POR₂₅OR₂₆, P(=O)OR₂₅OR₂₆, OPR₂₅R₂₆, OPR₂₅OR₂₆, OP(=O)R₂₅OR₂₆, SO₂R₂₆, sulfato, sulfo,

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R₂₈, N=N-R₂₈, or C₁-C₁₂alkoxy or C₁-C₁₂cycloalkoxy each unsubstituted or mono- or poly-substituted by halogen;

R₂₀ is halogen, nitro, cyano, thiocyanato, hydroxy, O-R₂₃, O-CO-R₂₃, S-R₂₃, CHO, COR₂₄, CHOR₂₃OR₃₀, CR₂₄OR₂₃OR₃₀, R₃₁, N=N-R₃₁, N=CR₂₃R₂₄, N=CR₂₁R₂₂, C(R₃₂)=NR₂₃, C(R₃₂)=NR₂₁, C(R₃₂)=CR₂₁R₂₂, NH₂, NH-R₂₃, NR₂₃R₂₄, NH₃⁺, NH₂R₂₃⁺, NH₂₃R₂₄⁺, NR₂₃R₂₄R₃₀⁺, CONH₂, CONHR₂₃, CONR₂₃R₂₄, SO₂R₂₃, SO₂NH₂, SO₂NHR₂₃, SO₂NR₂₃R₂₄, COOH, COOR₂₃, OCOOR₂₃, NHCOR₂₃, NR₂₃COR₃₀, NHCOOR₂₃, NR₂₃COOR₃₀, ureido, NR₂₃-CO-NHR₃₀, B(OH)₂, B(OH)(OR₂₃), B(OR₂₃)OR₃₀, phosphato, PR₂₃R₃₀, POR₂₃OR₃₀, P(=O)OR₂₃OR₃₀, OPR₂₃R₃₀, OPR₂₃R₃₀, OPR₂₃OR₃₀, OPC₂₃OR₃₀, OPC₂₃OR₃₀, OPC₂₃OR₃₀, Sulfato or sulfo;

 R_{21} and R_{22} are each independently of the other $NR_{26}R_{27}$, CN, $CONH_2$, $CONH_{23}$, $CONR_{23}R_{24}$ or $COOR_{24}$;

R₂₃, R₂₄ and R₃₀ are each independently of the others R₃₁, or C₁-C₁₂alkyl, C₃-C₁₂cycloalkyl, C₂-C₁₂alkenyl or C₃-C₁₂cycloalkenyl each unsubstituted or substituted by one or more, where applicable identical or different, halogen, hydroxy, C₁-C₁₂alkoxy or C₃-C₁₂cycloalkoxy radicals; or

R₁₆ and R₂₃ together, R₁₇ and R₂₃ together and/or R₂₃ and R₃₀ together are C₂-C₁₂alkylene, C₃-C₁₂cycloalkylene, C₂-C₁₂alkenylene or C₃-C₁₂cycloalkenylene, each of which is unsubstituted or substituted by one or more, where applicable identical or different, halogen, hydroxy, C₁-C₁₂alkoxy or C₃-C₁₂cycloalkoxy radicals; or

R₂₃ and R₂₄ together with the common nitrogen are pyrrolidine, piperidine, piperazine or morpholine, each of which is unsubstituted or mono- to tetra-substituted by C₁-C₄alkyl; or carbazole, phenoxazine or phenothiazine, each of which is unsubstituted or substituted by one or more, where applicable identical or different, radicals R₃₃;

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 R_{25} , R_{26} and R_{27} are each independently of the others C_1 - C_{12} alkyl, C_3 - C_{12} cycloalkyl, C_2 - C_{12} alkenyl, C_3 - C_{12} cycloalkenyl, C_6 - C_{12} aryl, C_4 - C_{12} heteroaryl, C_7 - C_{12} aralkyl or C_5 - C_{12} heteroaralkyl; or

 R_{26} and R_{27} together with the common nitrogen are pyrrolidine, piperidine, piperazine or morpholine, each of which is unsubstituted or mono- to tetra-substituted by C_{1} - C_{4} alkyl;

 R_{28} is C_6 - C_{12} aryl, C_4 - C_{12} heteroaryl, C_7 - C_{12} aralkyl or C_5 - C_{12} heteroaralkyl, each of which is unsubstituted or substituted by one or more, where applicable identical or different, radicals R_{20} or R_{29} ;

10 R₂₉ is C₁-C₁₂alkyl, C₃-C₁₂cycloalkyl, C₂-C₁₂alkenyl or C₃-C₁₂cycloalkenyl each unsubstituted or substituted by one or more, where applicable identical or different, halogen, hydroxy, C₁-C₁₂alkoxy or C₃-C₁₂cycloalkoxy radicals;

 R_{31} is C_6 - C_{12} aryl, C_4 - C_{12} heteroaryl, C_7 - C_{12} aralkyl or C_5 - C_{12} heteroaralkyl, each of which is unsubstituted or substituted by one or more, where applicable identical or different, radicals R_{33} ;

 R_{32} is hydrogen, cyano, hydroxy, C_1 - C_{12} alkoxy, C_3 - C_{12} cycloalkoxy, C_1 - C_{12} alkylthio, C_3 - C_{12} cycloalkylthio, amino, NHR₂₅, NR₂₆R₂₇, R₂₈, halogen, nitro, formyl, N=N-R₂₈, COO-R₂₆, carboxy, carbamoyl, CONH-R₂₆, CONR₂₆R₂₇, N=CR₂₃R₂₄, or C_1 - C_{12} alkyl, C_3 - C_{12} cycloalkyl, C_2 - C_{12} alkenyl or C_3 - C_{12} cycloalkenyl each unsubstituted or substituted by one or more, where applicable identical or different, halogen, hydroxy, C_1 - C_{12} alkoxy or C_3 - C_{12} cycloalkoxy radicals;

 R_{33} is nitro, SO_2NHR_{26} , $SO_2NR_{26}R_{27}$, or C_1 - C_{12} alkyl, C_3 - C_{12} cycloalkyl, C_1 - C_{12} alkylthio, C_3 - C_{12} cycloalkylthio, C_1 - C_{12} alkoxy or C_3 - C_{12} cycloalkoxy each unsubstituted or substituted by one or more, where applicable identical or different, radicals R_{19} ; and

25 m is a number from 1 to 10.

- 2. An optical recording medium according to claim 1, wherein M1 is a trebly positively charged cation, preferably Co3+, Cr3+, Ru3+, Fe3+, Mn3+, Au3+, Al3+, Sb3+, Bi3+, Sc3+, La3+ or Ce3+, most preferred Co3+ or Cr3+.
- 3. An optical recording medium according to claim 1 or 2, wherein the recording layer comprises a compound of formula (I) wherein

 A_1 , A_2 , A_3 and A_4 are each independently of the others O, S or N(R₁₄) and/or Q₁, Q₂ and Q₃ are C(R₁₇) or N;

G₁, G₂ and G₃ are each independently of the other

10 R₁, R₃, R₅, R₇, R₁₀ and R₁₆ are each independently of the others hydrogen, R₁₈, or C₆-C₁₂aryl or C₇-C₁₂aralkyl each unsubstituted or substituted by one or more, where applicable identical or different, radicals R₁₈;

R₂, R₄, R₆, R₈ and R₉ are each independently of the others H, F, OH, OCH₃, OCF₃, CH₃, CF₃, C₂H₅, C₂H₂F₃, C₂H₃F₂, C₂F₅, CH₂OH, CF₂OH or CH₂OCH₃;

R₁₄ and R₁₅ are each independently of the others unsubstituted or R₁₉-substituted C₁-C₈alkyl;

R₁₂ and R₁₈ are each independently of the other halogen, nitro, cyano, O-R₂₃, CHO, CH=C(CN)₂, CH=C(CN)CONH₂, CH=C(CN)CONH₂₃, CH=C(CN)CONR₂₃R₂₄, CH=C(CN)COOR₂₃, CH=C(COOR₂₃)COOR₂₄, CONH₂, CONH₂₃, CONR₂₃R₂₄,

SO₂C₁-C₁₂alkyl, SO₂NH₂, SO₂NHR₂₃, SO₂NR₂₃R₂₄, COOH, COOR₂₃, NHCOR₂₃, NR₂₃COR₃₀, NHCOOR₂₃, NR₂₃COOR₃₀, ureido, P(=O)OR₂₃OR₃₀, sulfo, or C₁-C₁₂alkyl, C₁-C₁₂alkylthio or C₁-C₁₂alkoxy each unsubstituted or substituted by one or more, where applicable identical or different, radicals R₁₉;

 R_{17} is hydrogen, halogen, cyano, nitro, formyl, $C(R_{16})=CR_{21}R_{22}$, $C(R_{16})=NR_{23}$, $COO-R_{26}$, carboxy, carbamoyl, $CONH-R_{26}$, $CONR_{26}R_{27}$, $N=N-R_{28}$, or C_1-C_{12} alkyl unsubstituted or substituted by one or more halogen substituents;

R₁₉ is halogen, hydroxy, O-R₂₆, NH₂, NH-R₂₆, NR₂₆R₂₇, NR₂₆-CO-R₂₅, NR₂₆COOR₂₅, cyano, COO-R₂₆, carboxy, CONH-R₂₆, CONR₂₆R₂₇, sulfato, sulfo, or C₁-C₁₂alkoxy unsubstituted or mono- or poly-substituted by halogen;

 R_{23} , R_{24} and R_{30} are each independently of the others C_{1} - C_{12} alkyl unsubstituted or substituted by one or more, where applicable identical or different, halogen, hydroxy or C_{1} - C_{12} alkoxy radicals, or unsubstituted C_{6} - C_{12} aryl or C_{7} - C_{12} aralkyl; or

10 R₂₃ and R₂₄ together with the common nitrogen are morpholine, or piperidine N-substituted by C₁-C₄alkyl;

 R_{25} , R_{26} and R_{27} are each independently of the others C_1 - C_{12} alkyl, C_2 - C_{12} alkenyl, C_6 - C_{12} aryl or C_7 - C_{12} aralkyl; or

R₂₆ and R₂₇ together with the common nitrogen are morpholine, or piperidine Nsubstituted by C₁-C₄alkyl;

 R_{31} is unsubstituted or substituted C_6 - C_{12} aryl or C_7 - C_{12} aralkyl, especially a metallocenyl radical; and/or

m is a number from 1 to 4.

4. An optical recording medium according to claim 1, 2 or 3, wherein the recording
layer comprises a compound of formula (I) wherein Q₁, Q₂ and Q₃ are C(R₁₇); G₁, G₂
and G₃ are $A_4 \cap R_7 \cap R_{37}$; and A₁, A₂, A₃ and A₄ are O, S or N(R₁₄);

R₁₄ is C₁-C₂₄alkyl, C₁-C₄alkyl-[O-C₁-C₄alkylene]_m or C₁-C₄alkyl-[NH-C₁-C₄alkylene]_m, each of which is unsubstituted or substituted by one or more, where applicable

identical or different, radicals R_{19} , or C_6 - C_{12} aryl unsubstituted or substituted by one or more, where applicable identical or different, radicals R_{18} ;

R₁₇ is hydrogen, cyano, COO-R₂₆ or C₁-C₁₂alkyl;

R₁₈ is halogen, nitro, cyano, O-R₂₃, CH=C(CN)₂, COOR₂₃, ureido, CONR₂₆R₂₇, SO₂R₂₆, P(=O)OR₂₃OR₃₀ or unsubstituted or substituted C₁-C₁₂alkyl;

R₁₉ is halogen, hydroxy, O-R₂₆, cyano, COO-R₂₆ or carboxy; and

R₃₇ is H, methyl, ethyl or isopropyl, in particular H.

5. An optical recording medium according to claim 1, 2, 3 or 4, wherein the recording

layer comprises a compound of formula (I) wherein Q_1 R_2 and/or G_1

10
$$R_4$$
 and/or R_5 R_8 R_8

- 5 6. An optical recording medium according to claim 1, 2, 3, 4 or 5, wherein the recording layer is substantially amorphous.
 - 7. An optical recording medium according to claim 1, 2, 3, 4, 5 or 6, additionally comprising a covering layer, wherein substrate, reflector layer, recording layer and covering layer are arranged in that order.
- 8. An optical recording medium according to claim 1, 2, 3, 4, 5, 6 or 7, which in addition to comprising a compound of formula (I) comprises a metal-free chromophore.
 - 9. A method of recording or playing back data, wherein the data on an optical recording medium according to claim 1, 2, 3, 4, 5, 6, 7 or 8 are recorded or played back at a wavelength of from 350 to 500 nm.
 - 10. A compound of formula (I) according to claim 1.

11. A compound according to claim 10, wherein R_2 , R_4 , R_6 , R_8 , R_9 and R_{11} are hydrogen.

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12. Use of a compound according to claim 10 or 11 for optical recording, preferably at a wavelength of from 350 to 500 nm.